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OCT 18 2002

Amendment under 37 CFR 1.116
Hiroyuki FUJITA

U.S. Patent Application Serial No. 09/663,799
Attorney Docket No. 001200

TECH CENTER 1600/290

REMARKS

Claims 1-10 are pending in this application. Amendments to claims 1-10 are proposed herein.

Claims 5 and 6 are rejected under 35 U.S.C. 112, second paragraph, as indefinite (Office action point 3).

Reconsideration of the rejection is respectfully requested in view of the proposed amendments to the claims. Claims 5 and 6 have been amended, in part, to recite: "a residue ~~from extraction of the dried fish with boiled water~~ of a dried fish meat extracted by hot water". This amendment is supported by the specification on page 4, lines 21-22.

Claims 1-10 are rejected under 35 U.S.C. 102(b) as anticipated by Masayasu.

Reconsideration of the rejection is respectfully requested.

Applicants note that the Examiner has not specified whether "Masayasu" refers to Japanese Unexamined Patent Publication 04-069398 or to JP04-139196. Applicants remarks apply to both references.

Masayasu's final one peptide cannot anticipate the present claims. However, Masayasu does disclose the peptide obtained by hydrolyzing the dried bonito with thermolysin and purifying the resulting hydrolyzate.

The membrane treatment of the instant application is not disclosed in Masayasu.

Moreover, Masayasu does not describe the color, bitterness and aftertaste of any hydrolyzate in several purifying steps, and does not direct to the food containing any hydrolyzate in several purifying steps.

Claims 1-10 are rejected under 35 U.S.C. 102(b) as anticipated by Suetsuna (JP 06340692) (Office action point 5).

Reconsideration of the rejection is respectfully requested in view of the proposed claim amendments.

Suetsuna's hexapeptide V is not the same as Leu-Lys-Tyr-Pro (SEQ ID. No. 7) of the instant application.

The raw material used in Suetsuna is sardine muscle, not bonito or dried bonito, and the protease used in Suetsuna is pepsin or the like. In Suetsuna, thermolysin is not described.

The membrane treatment of the instant application is not disclosed in Suetsuna. Moreover, Suetsuna does not describe the color, bitterness and aftertaste of the mixture of the hexapeptides or any hydrolyzate in several purifying steps, and is not directed to a food containing the mixture of the hexapeptides and any hydrolyzate in several purifying steps.

Claims 1-10 are rejected under 35 U.S.C. 102(b) as anticipated by Yokoyama et al. (*Biosci. Biotech. Biochem.* 1992) (Office action point 6).

Reconsideration of the rejection is respectfully requested.

The membrane treatment of the instant application is not disclosed in Yokoyama. Moreover, Yokoyama does not describe the color, bitterness and aftertaste of any hydrolyzate in several purifying steps, and is not directed to a food containing any hydrolyzate in several purifying steps.

Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as indefinite. (Office action point 8).

Reconsideration of the rejection is respectfully requested in view of the amendments to the claims. Claim 1 has been amended, in part, to recite: "10 % by weight ~~with respect to a solid portion of the composition~~ of the total polypeptide in the mixture."

Summary.

Regarding the step of removing the greater than 5000 molecular weight component, the claims are limited by membrane treatment described in page 8, line 9-10 of the specification.

The resulting mixture of the plurality of the peptides (angiotensin converting enzyme inhibitor) has good hue. Pure peptide has bad hue and bitterness.

Therefore, the resulting mixture of the plurality of peptides (angiotensin converting enzyme inhibitor) can be used as a food additive. Masayasu, Suetsuna and Yokoyama appear to be directed to antihypertensives for oral administration, but do not appear to disclose the use as food.

For the convenience of the Examiner, Applicants here attach complete translations of two of the references of record: Masayasu, Japanese Unexamined Patent Publication No. 04-069398 (corresponding to application no. 179842/1990); and Suetsuna, Publication No. 06-340692 (corresponding to Application no. 04-159954).

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicant's undersigned Agent at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

Attached hereto is a marked-up version of the changes made by the current amendment. The attached page is captioned "**Version with markings to show changes made.**"

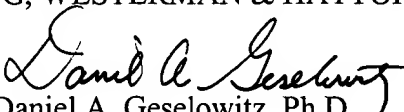
Amendment under 37 CFR 1.116
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U.S. Patent Application Serial No. 09/663,709
Attorney Docket No. 001200

In the event that this paper is not timely filed, Applicant respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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PATENT TRADEMARK OFFICE

Enclosures: Version with markings to show changes made
English translation of Japanese Unexamined Patent Publ. no. 04-069398
English translation of Japanese Unexamined Patent Publ. no. 06-340692

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please amend claim 1- 10 as follows:

1. (Twice Amended) A food comprising ~~An a~~ angiotensin converting enzyme inhibitor;
~~which is a composition~~ containing a mixture of a plurality of peptides, said mixture being obtained
by the steps of:

digesting a fish meat with thermolysin enzyme to produce a hydrolyzate, and ~~wherein a~~
treating the hydrolyzate with membrane or by solvent extraction with a polar organic
solvent to reduce the content of a polypeptide ~~ingredient~~ having a molecular weight of at least
5000 is to at most 10 % by weight ~~with respect to a solid portion of the composition of the total~~
polypeptide in the mixture.

2. (Twice Amended) ~~An angiotensin converting enzyme inhibitor~~ A food according to
Claim 1, wherein the ~~composition containing a~~ mixture of a the plurality of peptides comprises
at least one selected from the group consisting of

Ile-Tyr (SEQ. ID. NO. 2),

Phe-Gln-Pro (SEQ. ID. NO. 3),

Ile-Leu-Tyr (SEQ. ID. NO. 4),

Ile-Tyr-Ala (SEQ. ID. NO. 5),

Ile-Lys-Trp (SEQ. ID. NO. 6),

Leu-Lys-Tyr-Pro (SEQ. ID. NO. 7),

Ile-Val-Arg-Asp (SEQ. ID. NO. 8),
Leu-Lys-Pro-Asn-Met (SEQ. ID. NO. 9),
Ile-Trp-His-His-Thr (SEQ. ID. NO. 10),
Ala-Leu-Pro-His-Ala (SEQ. ID. NO. 11),
Ile-Lys-Pro-Leu-Asn-Tyr (SEQ. ID. NO. 12),
Asp-Tyr-Gly-Leu-Tyr-Pro (SEQ. ID. NO. 13), and
Ile-Val-Gly-Arg-Pro-Arg-His-Gln-Gly (SEQ. ID. NO. 14).

3. (Amended) ~~An angiotensin converting enzyme inhibitor~~ The food of Claim 1, wherein the fish meat is a dried fish meat.

4. (Amended) ~~An angiotensin converting enzyme inhibitor~~ The food of Claim 2, wherein the fish meat is a dried fish meat.

5. (Twice Amended) ~~An angiotensin converting enzyme inhibitor~~ The food of Claim 1, wherein a residue ~~from extraction of the dried fish with boiled water~~ of a dried fish meat extracted by hot water is used as the fish meat.

6. (Twice Amended) ~~An angiotensin converting enzyme inhibitor~~ The food of Claim 2, wherein a residue ~~from extraction of the dried fish with boiled water~~ of a dried fish meat extracted by hot water is used as the fish meat.

Amendment under 37 CFR 1.116
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U.S. Patent Application Serial No. 09/663,709
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7. (Amended) ~~An angiotensin converting enzyme inhibitor~~ The food of Claim 3, wherein the dried fish is a dried bonito.

8. (Amended) ~~An angiotensin converting enzyme inhibitor~~ The food of Claim 4, wherein the dried fish is a dried bonito.

9. (Amended) ~~An angiotensin converting enzyme inhibitor~~ The food of Claim 5, wherein the dried fish is a dried bonito.

10. (Amended) ~~An angiotensin converting enzyme inhibitor~~ The food of Claim 6, wherein the dried fish is a dried bonito.